

WHAT IS CLAIMED IS:

1. A system for measuring a pseudo pixel error rate in digital data transmission using a data enable (DE) signal, comprising:

a de-glitch filter for filtering a glitch from an unfiltered DE signal to generate a filtered DE signal after a predetermined processing time;

a delay unit for delaying the unfiltered DE signal to match the processing time of the de-glitch filter; and

a comparator for comparing the filtered DE signal and the unfiltered DE signal to detect an occurrence of error.

2. The system of claim 1, wherein the comparator is an XOR circuit.

3. The system of claim 1, further comprising a counter for counting the errors to determine the pseudo pixel error rate.

4. The system of claim 1, wherein the de-glitch filter comprises:

a shift register for sampling the unfiltered DE signal to generate sampled input bits;

a first combining circuit for generating signals when all the sampled inputs bits are high;

a plurality of inverters for generating inversion of the sampled input bits;

a second combining means for generating signals when all the inverted, sampled inputs are high; and

an SR-latch connected to the outputs of the first and the second combining means to produce the filtered DE signal.

5. The system of claim 1, wherein the de-glitch filter comprises:

an AND circuit for combining DE signals from all channels to produce logical AND's of the DE signals as an output; and

a comparator for comparing the output with the unfiltered DE signal to generate a filtered DE signal.

6. The system of claim 5, wherein the comparator is an XOR circuit.

7. The system of claim 1, wherein the digital data transmission complies with the DVI specification.

8. A system for measuring a pseudo pixel error rate in digital data transmission using a data enable (DE) signal, comprising:

a de-glitch filter for filtering a glitch from an unfiltered (DE) signal to generate a filtered DE signal;

a comparator for comparing the filtered DE signal and the unfiltered DE signal to detect an occurrence of error; and

a counter for counting the errors to determine the pseudo pixel error rate.

9. The system of claim 8, wherein the digital data transmission complies with the DVI specification.

10. A system for measuring a pseudo pixel error rate in digital data transmission, comprising:

a receiver for receiving an encoded signal containing video;

a decoder for decoding the received signal to produce a decoded signal after a first processing time;

an encoder for re-encoding the decoded signal back to a re-encoded signal after a second processing time;

a delay for delaying the received signal to match the sum of the first and second processing time; and

a comparator for comparing the re-encoded signal and the received signal to detect an occurrence of error.

11. The system of claim 10, wherein the encoded signal is encoded using TMDS.

12. The system of Claim 10, further comprising a counter for counting the errors to determine a pseudo pixel error rate.

13. A system for measuring a pseudo pixel error rate in digital data transmission using data encoding, comprising:

a decoder for decoding a received encoded signal to produce a decoded signal;

an encoder for re-encoding the decoded signal back to a re-encoded signal;

a comparator for comparing the re-encoded signal and the received signal to detect an occurrence of error; and

a counter for counting the errors to determine the pseudo pixel error rate.

14. The system of claim 13, wherein the data encoding uses TMDS.

15. A system for measuring a pseudo error rate in digital data transmission using data encoding, comprising:

a decoder for decoding a received encoded signal to produce a decoded signal;

an encoder for re-encoding the decoded signal back to a re-encoded signal;

a comparator for comparing the re-encoded signal and the received signal to detect an occurrence of error; and

a counter for counting the errors to determine the pseudo error rate.

16. A method of measuring a pseudo pixel error rate in digital data transmission using a data enable (DE) signal, comprising the steps of:

filtering a glitch from an unfiltered DE signal to generate a filtered DE signal after a predetermined processing time;

delaying the unfiltered DE signal to match the processing time of the de-glitch filter; and

comparing the filtered DE signal and the unfiltered DE signal to detect an occurrence of error.

17. The method of claim 16, wherein the comparing step performs an XOR operation.

FIG. 10 is a block diagram of a system for measuring a pseudo pixel error rate in digital data transmission using a data enable (DE) signal, comprising the steps of:

18. The method of claim 16, further comprising the step of counting the errors to determine the pseudo pixel error rate.
19. The system of claim 16, wherein the step of filtering comprises steps of:
sampling the unfiltered DE signal to generate sampled input bits;
generating a first signal when all the sampled inputs bits are high;
inverting the sampled input bits;
generating a second signal when all the inverted, sampled inputs are high; and
latching by setting an output when the first signal is asserted and reset when the second signal is asserted.
20. The method of claim 16, wherein the step of filtering comprises the steps of:
combining DE signals from all channels to produce logical AND's of the DE signals as an output; and
comparing the output with the unfiltered DE signal to generate a filtered DE signal.
21. The method of claim 20, wherein the step of comparing performs an XOR operation.
22. The method of claim 16, wherein the digital data transmission complies with the DVI specification.
23. A method of measuring a pseudo pixel error rate in digital data transmission

using a data enable (DE) signal, comprising the steps of:

filtering a glitch from an unfiltered (DE) signal to generate a filtered DE signal;

comparing the filtered DE signal and the unfiltered DE signal to detect an occurrence of error; and

counting the errors to determine the pseudo pixel error rate.

24. The method of claim 23, wherein the digital data transmission complies with the DVI specification.

25. A method of measuring a pseudo pixel error rate in digital data transmission, comprising the steps of:

receiving an encoded signal containing video;

decoding the received signal to produce a decoded signal after a first processing time;

re-encoding the decoded signal back to a re-encoded signal after a second processing time;

delaying the received signal to match the sum of the first and second processing time; and

comparing the re-encoded signal and the received signal to detect an occurrence of error.

26. The method of claim 25, wherein the encoded signal is encoded using TMDS.

27. The method of Claim 25, further comprising a counter for counting the errors

to determine a pseudo pixel error rate.

28. A method of measuring a pseudo pixel error rate in digital data transmission using data encoding, comprising:

a decoder for decoding a received encoded signal to produce a decoded signal;

an encoder for re-encoding the decoded signal back to a re-encoded signal;

a comparator for comparing the re-encoded signal and the received signal to detect an occurrence of error; and

a counter for counting the errors to determine the pseudo pixel error rate.

29. The method of claim 28, wherein the data encoding uses TMDS.

30. A method of measuring a pseudo error rate in digital data transmission using data encoding, comprising the steps of:

receiving a signal containing an encoded character;

comparing the encoded character with a set of predefined in-band characters;

detecting an error if the encoded character is not the same as any characters in the set; and

counting the errors to determine the pseudo error rate.

31. The method of claim 30, wherein the data encoding uses TMDS.

32. A method of measuring a pseudo error rate in digital data transmission using data encoding, comprising the steps of:

receiving a signal containing an encoded character;
comparing the encoded character with a set of predefined out-of-band (OOB) characters;
detecting an error if the encoded character is the same as one of the OOB characters in the set; and
counting the errors to determine the pseudo error rate.

33. The method of claim 32, wherein the data encoding uses TMDS.

34. A method of measuring a pseudo error rate in digital data transmission using data encoding, comprising the steps of:

decoding a received encoded signal to produce a decoded signal;
re-encoding the decoded signal back to a re-encoded signal;
comparing the re-encoded signal and the received signal to detect an occurrence of error; and
counting the errors to determine the pseudo error rate.

35. A system for utilizing a pseudo pixel error rate in a receiver with adjustable parameters for use in digital data transmission, comprising the steps of:

a detector for detecting pseudo pixel errors;
a counter for determining a pseudo pixel error rate; and
a controller for adjusting the receiver parameters to reduce the pseudo pixel error rate.

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36. The system of claim 35, wherein the receiver parameter includes a receiver termination resistance.

37. The system of claim 35, wherein the receiver parameter includes a receiver equalization scheme.

38. The system of claim 35, wherein the receiver parameter includes a receiver clocking scheme.

39. The system of claim 35, wherein the receiver parameter includes a receiver bandwidth.

40. The system of claim 35, wherein the receiver parameter includes a receiver sampling method.

41. A method of utilizing a pseudo pixel error rate in a receiver with adjustable parameters for use in digital data transmission, comprising the steps of:

detecting pseudo pixel errors;

determining a pseudo pixel error rate; and

controlling the receiver parameters to reduce the pseudo pixel error rate.

42. The method of claim 41, wherein the receiver parameter includes a receiver termination resistance.

43. The method of claim 41, wherein the receiver parameter includes a receiver equalization scheme.

44. The method of claim 41, wherein the receiver parameter includes a receiver clocking scheme.

45. The method of claim 41, wherein the receiver parameter includes a receiver bandwidth.

46. The method of claim 41, wherein the receiver parameter includes a receiver sampling method.

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